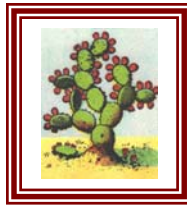


## ***Cactoblastis cactorum* Activities Report for November 2006**



*For past reports and more information, see the PPQ Cactus Moth website at: [http://www.aphis.usda.gov/ppq/ep/emerging\\_pests/cactoblastis/index.html](http://www.aphis.usda.gov/ppq/ep/emerging_pests/cactoblastis/index.html)*

**Joel Floyd, USDA-APHIS-PPQ-EDP, Riverdale, MD**

**PPQ FIELD ACTIVITY:** Maurice Duffel worked with TDY personnel, Beth Lotz of PPQ Mississippi, Bill Bryant, PPQ Alabama, and Vince Rister, PPQ Tampa, FL in Ft. Morgan and Bon Secour Wildlife Refuge, checking traps, replacing lure, and making sterile releases. Using a front end loader, they removed over 40 tons of host material and also collected 1,546 egg sticks at Ft. Morgan. Craig Hinton assisted Stephen Hight with trapping and host removal at Dauphin Island and Little Dauphin Island, AL. Additional help has been provided by Robert Smith, Joe Dawson, and Gene Bohannon of APHIS-PPQ in Gulfport.

**ENVIRONMENTAL COMPLIANCE:** Consultations took place with the US Fish & Wildlife Service for Fort Morgan due to critical habitat issues with the Alabama beach mouse (ABM), a federally listed endangered species. A proposal was submitted and letter was issued allowing the removal of host material using machinery from an area around the Fort that is not considered to be inhabited by, or have the elements of the habitat needed for the ABM.

**SURVEY:** Richard Brown identified moths from pheromone traps placed in Arizona (16 traps, nurseries, APHIS), South Carolina (11 traps, Charleston, APHIS) and Texas (3 traps, Padre Island NS), Puerto Rico (2 traps, APHIS). All were negative for cactus moth except those from South Carolina and Puerto Rico.

**REGULATION:** A technical panel is being formed to evaluate the possible methods for a nursery stock certification program for Florida nurseries who wish to ship host plants to non-infested states. The panel's evaluation will help provide information and scientific justification needed to write those requirements into the domestic regulation.

**OUTREACH:** Joel Floyd gave a presentation that included cactus moth awareness at the 1<sup>st</sup> National Tribal Invasive Species Conference held in Sparks, Nevada.

**TECHNICAL LIAISON.** Stephanie Bloem collected and compiled all reports for October program activities.

**George Schneider, Florida Department of Agriculture and Consumer Services-DPI, Gainesville, FL**

**Accomplishments and activities:** The Biological Control Rearing Facility (BCRF) received a second shipment of cladodes from the USDA-APHIS facility in Edinburg, Texas on November 14<sup>th</sup>; they were sent by UPS this time and arrived in good condition overall. A second set of egg sticks was received from the ARS laboratory in Tifton, Georgia on November 16<sup>th</sup> and placed on cladodes in one hundred larval rearing containers. The initial trial set-up on October 6<sup>th</sup> has yielded 5,400 cactus moth pupae through November. Only a couple of containers with developing larvae remain and it looks like the overall production for this group will be about 18-19%. This is much lower than expected and likely has a lot to do with the thickness of the cladodes being utilized in rearing. The cladodes turn excessively mushy and create too much exudate in the bottom of the containers. We will work with Texas on limiting the size range for the cladodes shipped to us now that they have pruned back the wild growth and can better control the crop's pad size. Modification of our larval development containers continues, the fiscal paperwork has been finalized for the purchase of the egg stick incubator, quotes have been received for the adult colony environmental chamber and eclosion cages, and designing the adult moth scale collection unit is continuing.

**Stephen Hight, USDA-ARS-CMAVE Tallahassee, FL**  
**Jim Carpenter, USDA-ARS-CPMRU, Tifton, GA**

**SIT VALIDATION.** Traps were serviced at the four SIT verification and implementation sites for four of the five weeks in November (no servicing of the traps occurred during Thanksgiving week). Except for Ft. Morgan, the last male moth caught in the traps occurred by mid October. Male moths were caught at Ft. Morgan throughout November.

Total and average November trap catch of wild *C. cactorum* for each site is presented in Table 1. The average number of wild moths found per trap is based on weekly averages. Releases of sterile *C. cactorum* were made at Dauphin and Little Dauphin sites during November (Table 2). Weekly capture information at Ft. Morgan is presented in Table 3 and Figs. 1 and 2.

Table 1. Wild *Cactoblastis cactorum* (Cc) caught in traps during November 2006 (1-30 November).

Location	Dauphin Is., AL	Little Dauphin Is., AL	Ft. Morgan, AL	Pensacola Beach, FL
# Traps	53	5	16	69
# Wild Cc	1	0	174	7
Avg. # Wild Cc/Trap	0.004	0	2.2	0.02

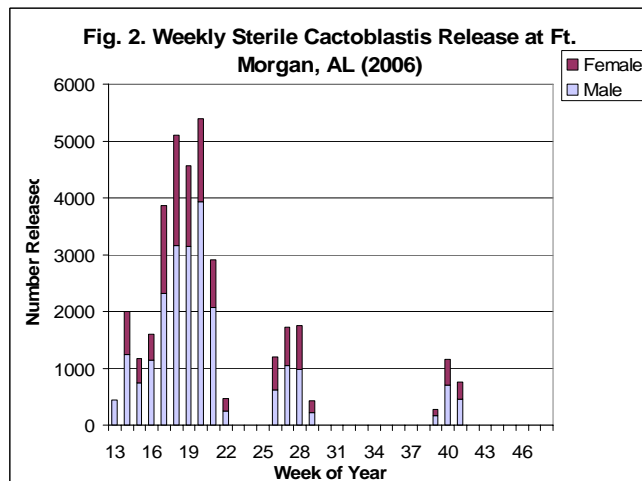
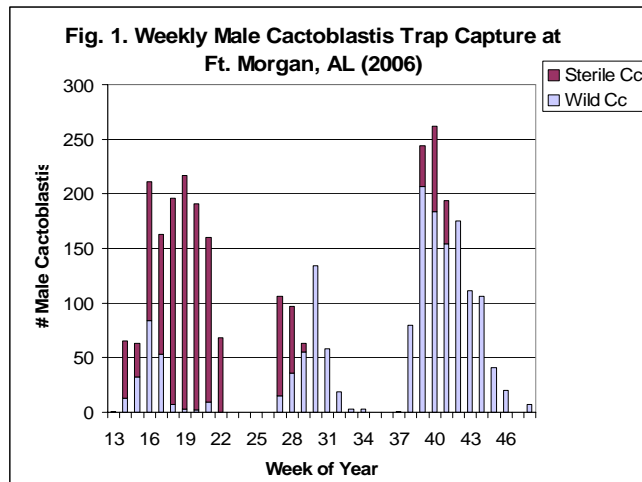
Table 2. November release totals of sterile *Cactoblastis cactorum* made at Alabama sites.

LOCATION	NUMBER OF STERILE Cc RELEASED		
	♂	♀	TOTAL
Ft. Morgan, AL	0	0	0
Little Dauphin Island, AL	446	240	686
Dauphin Island, AL	543	295	838

Table 3. Weekly male *Cactoblastis cactorum* (Cc) trap capture, number of male and female sterile moths released, and percent sterile males released that were recaptured at Ft. Morgan, AL, February - November 2006. ns\* = traps were not serviced during the week.

MONTH	WEEK OF YEAR	Cc CAPTURED		STERILE Cc RELEASED		% STERILE ♂ Cc RECAPTURED
		WILD ♂ Cc	STERILE ♂ Cc	♂	♀	
February	8	0	--	--	--	--
March	12	0	--	--	--	--
March	13	1	0	443	0	--
April	14	13	52	1236	758	3.1
April	15	32	31	747	422	4.2
April	16	84	127	1144	456	11.1
April	17	52	110	2312	1547	1.5
May	18	7	189	3163	1942	6.0
May	19	3	214	3139	1433	6.8
May	20	2	189	3925	1475	4.8
May	21	9	151	2073	836	7.3
June	22	0	68	245	226	27.8
June	23	0	0	0	0	0
June	24	0	0	0	0	0
June	25	0	0	0	0	0
June	26	0	0	616	578	0
July	27	15	91	1044	680	5.5
July	28	36	61	975	782	6.3
July	29	55	8	220	206	3.6
July	30	134	0	0	0	0
August	31	58	0	0	0	0
August	32	19	0	0	0	0
August	33	3	0	0	0	0
August	34	3	0	0	0	0
August	35	0	0	0	0	0
September	36	0	0	0	0	0
September	37	1	0	0	0	0
September	38	80	0	0	0	0
September	39	207	37	172	110	21.5
October	40	184	78	703	449	11.1

October	41	154	40	458	306	8.7
October	42	175	0	0	0	0
October	43	111	0	0	0	0
November	44	106	0	0	0	0
November	45	41	0	0	0	0
November	46	20	0	0	0	0
November	47	ns*	ns*	ns*	ns*	ns*
November	48	7	0	0	0	0



**ECOLOGICAL AND QUALITY CONTROL FIELD STUDIES.** Flight Periods and Degree-Day Model. Weekly-collected trap bottoms sent by collaborators from the four sites were scored, analysis updated, and outcomes forwarded back to collaborators. In general, the fall flight period ended mid-October in south Florida, early November in north Florida and coastal Georgia, and late November in coastal South Carolina.

Phylogenetic Analysis. Larvae were sent to Dr. Brown and Dr. Thomas Simonson for phylogenetic analysis. Collected material were obtained from two locations in South Carolina,

one location in Georgia, three locations in Florida, one location in Alabama, one location in Hawaii, and the isolated infestation in Mexico.

**S. Dorn, M. Sarvary, ETH Zurich, Switzerland**

**STUDIES ON DISPERSAL ABILITY.** Flight activity and diel activity patterns of mated *C. cactorum* is being measured using flightmills. We have completed the study on flight activity of virgin moths completed except for replicates with older adults, where sample size needs to be increased. Available data confirm the validity of the method developed for this species that has high body weight.

**R. Heath, N. Epsky, USDA-ARS-SHRS Laboratory, Miami, Florida**  
**NO REPORT SUBMITTED FOR THE MONTH OF NOVEMBER**